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10/767,017	01/28/2004	Toshio Miyazawa	6453P034	4732

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EXAMINER

RASHID, DAVID

ART UNIT	PAPER NUMBER
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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/767,017	Applicant(s) MIYAZAWA ET AL.	
	Examiner David P. Rashid	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____ | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
5) <input type="checkbox"/> Notice of Informal Patent Application
6) <input type="checkbox"/> Other: ____ |
|--|--|

DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) (Application # JP2004-014628, filed 11/3/2004 and Application # JP2003-022444 filed 11/3/2004), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference signs mentioned in the specification: "120", "121", "122", and "123".
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the specification: "90_{p0}", "90_{p1}", and "90_{p2}".
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character
 - (i) "1" has been used to designate both decomposition level 1 and server-client system 1;
 - (ii) "2" has been used to designate both decomposition level 2 and server computer 2; and
 - (iii) "3" has been used to designate both decomposition level 3 and network 3.

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5. FIG. 1 through FIG. 7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated with regards to the operating principle of the JPEG2000 algorithm. See MPEP § 608.02(g).
6. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because of the following informalities:
- (i) Paragraph [0057], line 7 refers to the wrong reference numeral – suggest changing to “....inverse transform unit 101 ~~100~~.”
 - (ii) Paragraph [00112], line 3 refers to the wrong reference numeral – suggest changing to “...through T3 ~~R3~~ depending...”
 - (iii) Paragraph [00112], line 15 appears to refer to the wrong reference numeral – suggest changing to “...the tile T3 ~~T2~~, by the third...”, this also occurs in paragraphs [00113], [00115], [00117]
- Appropriate correction is required.

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8. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. **Claims 1, 3, 5, 9, 11, and 13** are rejected under 35 U.S.C. 102(b) as being anticipated by Skodras et al. (The JPEG 2000 Still Image Compression Standard, IEEE Signal Processing Magazine, Sept 2001, pg 36 – 58).

Regarding **claim 1**, Skodras teaches an image processing apparatus (“computer” in left column, pg 38; FIG. 2, pg 38) for hierarchically compressing (“Compressed Image Data” in FIG. 2, pg 38) and coding (“Entropy Encoding” in FIG. 2, pg 38) image data by subjecting pixel values of the image data (“Source Image Data” in FIG. 2, pg 38) to a discrete wavelet transform (“Forward Transform” in FIG. 2, pg 38; “[p]rior to computation of the forward discrete wavelet transform (DWT)...”, left column, pg 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided (“The image components are

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(optionally) decomposed into rectangular tiles.”, left column, pg 39; Image Tiling Section, right column, pg 39), the image processing comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in FIG. 11 in pg 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (FIG. 11, pg 45; “DWT on Each Tile” in FIG. 3, pg 39 wherein the hierarchical regions are the tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes (“Code Stream” in FIG. 11, pg 45); and

a distributively storing unit (“Store and Transmit” in FIG. 2, pg 38) to distributively store (FIG. 11, pg 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each hierarchical layer by the hierarchical coding unit into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of Skodras has a memory storage unit).

Regarding **claim 3**, claim 1 recites identical features as in claim 3. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 3. The means-plus-function language is anticipated by the computer hardware (“computer” in left column, pg 38; FIG. 2, pg 38) of Skodras.

Regarding **claim 5**, Skodras teaches an image processing apparatus (“computer” in left column, pg 38; FIG. 2, pg 38) for hierarchically compressing (“Compressed Image Data” in FIG. 2, pg 38) and coding (“Entropy Encoding” in FIG. 2, pg 38) image data by subjecting pixel values of the image data (“Source Image Data” in FIG. 2, pg 38) to a discrete wavelet transform (“Forward Transform” in FIG. 2, pg 38; “[p]rior to computation of the forward discrete wavelet transform (DWT)...”, left column, pg 40), quantization and coding for each of one or a plurality

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of rectangular regions into which the image data is divided (“The image components are (optionally) decomposed into rectangular tiles.”, left column, pg 39; Image Tiling Section, right column, pg 39), the image processing comprising:

a rectangular region coding unit (“Tiling” in FIG. 3, pg 39) to compress and code the image data in a state where the image data is divided for each rectangular region (“DWT on Each Tile” in FIG. 3, pg 39; “All operations, including component mixing, wavelet transform, quantization and entropy coding are performed independently on the image tiles (Fig. 3).”, right column, pg 39), to obtain compressed codes; and

a distributively storing unit (“Store and Transmit” in FIG. 2, pg 38) to distributively store (FIG. 11, pg 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each rectangular region by the rectangular region coding unit.

Regarding **claim 9**, claim 5 recites identical features as in claim 9. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to claim 9. The means-plus-function language is anticipated by the computer hardware (“computer” in left column, pg 38; FIG. 2, pg 38) of Skodras.

Regarding **claim 11**, claim 1 recites identical features as in claim 11. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 11.

Regarding **claim 13**, claim 5 recites identical features as in claim 13. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to claim 13.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 2, 4, 7, 10, 12, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Skodras et al. (The JPEG 2000 Still Image Compression Standard, IEEE Signal Processing Magazine, Sept 2001, pg 36 – 58) in view of Qian et al. (US 6,070,167 A).

Regarding **claim 2**, while Skodras teaches an image processing apparatus (“computer” in left column, pg 38; FIG. 2, pg 38) for hierarchically compressing (“Compressed Image Data” in FIG. 2, pg 38) and coding (“Entropy Encoding” in FIG. 2, pg 38) image data by subjecting pixel values of the image data (“Source Image Data” in FIG. 2, pg 38) to a discrete wavelet transform (“Forward Transform” in FIG. 2, pg 38; “[p]rior to computation of the forward discrete wavelet transform (DWT)...”, left column, pg 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided (“The image components are (optionally) decomposed into rectangular tiles.”, left column, pg 39; Image Tiling Section, right column, pg 39), the image processing apparatus forming an electronic equipment (the computer to execute FIG. 2, pg 38 forms electronic equipment) and comprising:

a hierarchical coding unit (unit responsible for producing the packet stream in FIG. 11 in pg 45) to compress and code the image data in a state where the image data is divided for each hierarchical region (FIG. 11, pg 45; “DWT on Each Tile” in FIG. 3, pg 39 wherein the

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hierarchical regions are the tiles (level 0), precinct (level 1), and code blocks (level 2)), to obtain compressed codes ("Code Stream" in FIG. 11, pg 45); and

a distributively storing unit ("Store and Transmit" in FIG. 2, pg 38) to distributively store (FIG. 11, pg 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each hierarchical layer by the hierarchical coding unit into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of Skodras has a memory storage unit), Skodras does not teach

(i) electronic equipment which is coupled to a network having other electronic equipments coupled thereto; and

(ii) distributively storing information into a storage unit of each of the other electronic equipments.

Qian et al. discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (FIG. 1) that teaches

(i) electronic equipment ("computer" in Col. 2, lines 58 – 67; FIG. 1, elements 12, 14, 15, 16, 17, 20) which is coupled to a network (FIG. 1, element 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and

(ii) distributively storing information into a storage unit of each of the other electronic equipments (Col. 3, lines 31 – 34).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of Skodras to include having other electronic equipments coupled thereto as taught by Qian and the distributively storing unit of Skodras to include storing the compressed codes of Skodras as taught by Qian "...to develop a hierarchical data structure and method that enables association of descriptive data in an image.", Qian, Col. 1, lines 59 – 61.

Regarding **claim 4**, claim 2 recites identical features as in claim 4. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 4. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, pg 38; FIG. 2, pg 38) of Skodras.

Regarding **claim 7**, while Skodras teaches an image processing apparatus ("computer" in left column, pg 38; FIG. 2, pg 38) for hierarchically compressing ("Compressed Image Data" in FIG. 2, pg 38) and coding ("Entropy Encoding" in FIG. 2, pg 38) image data by subjecting pixel values of the image data ("Source Image Data" in FIG. 2, pg 38) to a discrete wavelet transform ("Forward Transform" in FIG. 2, pg 38; "[p]rior to computation of the forward discrete wavelet transform (DWT)...", left column, pg 40), quantization and coding for each of one or a plurality of rectangular regions into which the image data is divided ("The image components are (optionally) decomposed into rectangular tiles.", left column, pg 39; Image Tiling Section, right column, pg 39), the image processing apparatus forming an electronic equipment (the computer to execute FIG. 2, pg 38 forms electronic equipment) and comprising:

a rectangular region coding unit ("Tiling" in FIG. 3, pg 39) to compress and code the image data in a state where the image data is divided for each rectangular region ("DWT on Each Tile" in FIG. 3, pg 39; "All operations, including component mixing, wavelet transform,

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quantization and entropy coding are performed independently on the image tiles (Fig. 3).”, right column, pg 39), to obtain compressed codes (“Code Stream” in FIG. 11, pg 45); and

a distributively storing unit (“Store and Transmit” in FIG. 2, pg 38) to distributively store (FIG. 11, pg 45 wherein each tile layer is a separate portion in the code stream) the compressed codes which are divided for each rectangular region by the rectangular region coding unit into a storage unit (it is implicit if not already inherent that the image processing apparatus computer of Skodras has a memory storage unit), Skodras does not teach

(i) electronic equipment which is coupled to a network having other electronic equipments coupled thereto; and

(ii) distributively storing information into a storage unit of each of the other electronic equipments.

Qian et al. discloses a hierarchical method and system for object-based audiovisual descriptive tagging of images for information retrieval, editing, and manipulation (FIG. 1) that teaches

(i) electronic equipment (“computer” in Col. 2, lines 58 – 67; FIG. 1, elements 12, 14, 15, 16, 17, 20) which is coupled to a network (FIG. 1, element 18) having other electronic equipments coupled thereto (a computer network is by definition composed of multiple computers being connected together using a telecommunication system for the purpose of sharing data, resources, and communication); and

(ii) distributively storing information into a storage unit of each of the other electronic equipments (Col. 3, lines 31 – 34).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made for the electronic equipment of Skodras to include having other electronic equipments coupled thereto as taught by Qian and the distributively storing unit of Skodras to include storing the compressed codes of Skodras as taught by Qian "...to develop a hierarchical data structure and method that enables association of descriptive data in an image.", Qian, Col. 1, lines 59 – 61.

Regarding **claim 10**, claim 7 recites identical features as in claim 10. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 10. The means-plus-function language is anticipated by the computer hardware ("computer" in left column, pg 38; FIG. 2, pg 38) of Skodras.

Regarding **claim 12**, claim 2 recites identical features as in claim 12. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 12.

Regarding **claim 15**, claim 7 recites identical features as in claim 15. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 15.

13. **Claims 6 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Skodras et al. (The JPEG 2000 Still Image Compression Standard, IEEE Signal Processing Magazine, Sept 2001, pg 36 – 58) in view of Beek et al. (US 2002/0091665 A1).

Regarding **claim 6**, while Skodras discloses the image processing apparatus as claimed in claim 5, though Skodras hints at other forms of decomposition (besides tiles) citing "The image components are (optionally) decomposed into rectangular tiles. The tile-component is the basic

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unit of the original or reconstructed image.”, left column, pg 39), Skodras does not teach wherein the rectangular region coding unit compresses and codes the image data with a decomposition level dependent on a type of the image data, a type of region of the image data, a type of source electronic equipment of the image data, or an external instruction.

Beek discloses metadata in JPEG 2000 file format that teaches “external instruction” with use of the functions SegmentDecomposition Decomposition, DecompositionDataType Datatype and DecompositionType Attribute (paragraphs [0036] through [0038]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for rectangular region coding unit as taught by Skodras to compress and code the image data with a decomposition level dependent on external instruction as taught by Beek “...so that all complaint JPEG2000 viewers will be able to render the image in a proper manner and in addition process the additional information, if desired.”, Beek, paragraph [0016].

Regarding **claim 14**, claim 6 recites identical features as in claim 14. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 14.

14. **Claims 8 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Skodras et al. (The JPEG 2000 Still Image Compression Standard, IEEE Signal Processing Magazine, Sept 2001, pg 36 – 58) in view of Qian et al. (US 6,070,167 A) and Beek et al. (US 2002/0091665 A1).

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Regarding **claim 8**, claim 6 recites identical features as in claim 8. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 8.

Regarding **claim 16**, claim 6 recites identical features as in claim 16. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 16.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached Monday - Friday 8:30 - 17:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David P. Rashid/
Examiner, Art Unit 2624

David P Rashid
Examiner
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/Brian P. Werner/
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